



case study

Wawa Deploys Niagara in a Scalable Internet of Things Workflow

THE CHALLENGE

Retailers today rely on a wide variety of intelligent systems and devices. Like almost all enterprises, they maintain IT systems to manage personnel, supply chain, accounting, and other enterprise management applications. A large convenience grocery store and fueling station chain retailer like Wawa maintains a variety of operational technology (OT) systems as well to manage and control HVAC, lighting (interior and exterior), refrigeration, food preparation, physical access security, utility meters, fuel-tank monitoring, fuel dispensing and, in some cases, car-wash irrigation. All these systems are critical to store operations and customer satisfaction. Connecting to and communicating with these devices and systems enables the store to maximize operational efficiency and profitability.

The operational assets in a convenience store are typically in proximity, and they can often be connected using the same wireless and/or wired local area network. But this doesn't mean they can easily share data. Because these devices communicate using a wide range of formats, it has historically been difficult to take full advantage of their capabilities and the information they contain.

THE SOLUTION

In keeping with Wawa's commitment to use technology throughout every phase of its operations to maximize efficiency, control costs and enhance the customer experience, Tridium in partnership with Wawa and Vykron System Integrator HVAC Concepts, designed a scalable, end-to-end Internet-of-Things (IoT) solution consisting of hardware and software that connects each individual store's operational devices, equipment and systems together and to the company's wide enterprise network. The application was built with Niagara Framework® at the core. It enables the Wawa facilities team to monitor, control and archive data streaming from most major systems within a store-locally, centrally on premises and remotely.

THE RESULTS

A pilot program proved itself by realizing savings across a wide range of systems and functions. Based on this tangible ROI and compelling business justification, the solution is now being deployed companywide in 800+ stores. Wawa is experiencing a range of benefits and ROI across multiple business functions that include:

The goal of achieving 'one information network across the entire enterprise' led retail leader Wawa to Niagara Framework — IoT middleware that accepts data from all sorts of sources and feeds it to all sorts of enterprise applications, overcoming the complications of proprietary formats.

EXECUTIVE SUMMARY

Industry: C-Store Retail

Focus: Energy and Analytics

Integrator: HVAC Concepts

Fast Facts:

- More than 800 stores in the Mid-Atlantic and Florida; 500+ that sell gasoline.
- Scalable, end-to-end Niagara Framework solution now connects each store's operational devices to the company enterprise network.
- Wawa has experienced savings across an array of systems and functions
- Pilot programs are now being expanded company-wide.

Key Benefits:

- Real-time reporting
- Increased profitability
- Reduced operational costs
- Improved resource management
- Reduced downtime
- Maximized customer comfort
- Manages daily fuel deliveries to over 500+ stores
- Extensible to take advantage of new technologies

TRIDIUM

Wawa

Financial/Business Management

- Real time reporting that is supporting more effective decision making
- Increased profitability at each store location by reducing operational costs and improving workflow and resource management
- Benchmarking performance and sharing best practices across their entire enterprise

Energy Management

- Understanding individual store energy consumption patterns and trends
- Benchmarking energy performance at each store location
- Reducing energy costs

Facility and Equipment Management

- Reducing downtime and response time to equipment failures
- Enabling the automation of fault detection and diagnostics
- Centrally and locally managing alarms and alerts
- Improving facility operation
- Maximizing customer comfort and enhancing the overall customer experience
- Giving visibility and access into the assets and systems that affect the company's operations each day

Maintenance & Operations

- Reducing response time on maintenance issues
- Easing the addition of new vendors of equipment
- Enabling the cost-effective integration of applications for physical security and fire
- Enabling the use analytics to support preventive and predictive maintenance and the ability to prioritize equipment maintenance based on actual performance data

ABOUT THE INTEGRATOR

Based in the DC metro area, HVAC Concepts has been in business for over 30 years — concentrating on controlling and monitoring facilities. As an early advocate of interoperability, HVACC identified the change in the control industry from proprietary to interoperable systems. It has maintained and supported all of its installed systems. Over 99% of all systems ever installed in the company's history are still running at 100% capacity. Read more about HVAC Concepts at www.hvacc.com